

Applicant : Zhimin Liu, Mark S. Wang, and Jingyu Xu Attorney's Docket No.: 13854-032001 / OPLINK-0106
Serial No. : 09 899,481
Filed : July 5, 2001
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REMARKS

Claims 1-2 have been cancelled. Claims 3-4, 6, 9 and 15 have been amended. Claims 21-23 have been added. Claims 3-4 and 6-23 are now pending. The specification has been amended to correct a typographical error. No new matter has been added. Applicant respectfully requests reconsideration in view of the foregoing amendment and these remarks.

In the official action mailed February 12, 2003, claims 3-4 and 16-17 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant has amended claims 3-4 as requested by the Examiner. Applicant also amended claims 6 and 9. Claims 6-14 depend from claim 3. Thus, claims 3, 4 and 6-14 are allowable.

Claims 9-14 were rejected under 35 U.S.C. 112, first paragraph as allegedly failing to "adequately support the recitations of 'a loop optical circulator having N ports . . . where N is an integer of at least three.'" Claim 9 has been amended to remove this recitation, rendering this rejection moot.

Claim 1 was rejected under 35 U.S.C. 102(b) as allegedly being clearly anticipated by Pattie, International Publication No. WO94/09400. This rejection is moot since claim 1 has been cancelled.

Claims 1, 2, 6-8, 15 and 18-20 were rejected under 35 U.S.C. 102(e) as allegedly being anticipated by Ducellier et al., U.S. Patent Application No. US 2002/0024730 A1 ("Ducellier US"). Claims 1 and 2 have been cancelled. Claims 6-8 now depend from claim 3, which the Examiner indicated as containing allowable subject matter.

Amended claim 15 is directed to a four-port loop optical circulator that includes a

a vertical displacement means for shifting an optical path along a vertical direction with a predefined vertical displacement for an optical beam transmitted with a particular polarization, and

wherein said vertical displacement means is adapted to transmit or receive said vertical polarized optical beam from said walk-off crystal, including vertically displacing the beam received from said fourth port and not vertically displacing the beam received from said third port or said first port.

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Ducellier US discloses a four port bidirectional circulator. Page 5, paragraph [0064]. As shown in FIG. 14, a beam transmitted from third port 313 to fourth port 314 must be vertically displaced by beam director 326 to reach fourth port 313. Also, a beam transmitted from first port 311 must be vertically displaced by beam director 326 to reach fourth port 314. Claim 15 recites a structure that does not vertically displace the beam received from the third port or first port. Thus, claim 15 and its dependent claims 18-20 are allowable over Ducellier US.

Claims 9 and 12 were rejected under 35 U.S.C. 102(a) as allegedly being anticipated by Ducellier et al., European Patent Application Publication No. EP 1103838A2 ("Ducellier EP"). This rejection is moot since claims 9 and 12 now depend from claim 3, which the Examiner has indicated as containing allowable subject matter.

Claim 11 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Ducellier EP in view of Shirasaki et al., U.S. Patent No. 6,226,115 B1. This rejection is moot since claim 11 now depends from claim 3, which the Examiner has indicated as containing allowable subject matter.

Claim 10 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Ducellier EP in view of Shirasaki, and further in view of Bergmann et al., U.S. Patent No. 6,002,512. This rejection is moot since claim 10 now depends from claim 3, which the Examiner has indicated as containing allowable subject matter.

Claim 14 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Ducellier EP in view of Riza, U.S. Patent No. 6,282,336 B1. This rejection is moot since claim 14 now depends from claim 3, which the Examiner has indicated as containing allowable subject matter.

Claim 13 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Ducellier EP in view of Riza, and further in view of Jackel et al., U.S. Patent No. 5,034,950. This rejection is moot since claim 13 now depends from claim 3, which the Examiner has indicated as containing allowable subject matter.